Installation Instructions

Part Numbers: CRLPKIT8001A00, CRLPKIT8002A00

SAFETY CONSIDERATIONS

Read these instructions entirely before installing the accessory LP (Liquid Propane) Gas Conversion Kit into the base rooftop unit. See Table 1 for usage and contents.

Installation, start-up, and servicing of this equipment can be hazardous due to system pressures, electrical components, and equipment location (roofs). Only trained, qualified installers and service technicians should install, start up, and service this equipment.

When working on this equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment. Also observe any other safety precautions that may apply.

⚠ WARNING

Before beginning any modifications, close the main gas supply shutoff valve, and be certain the main-line electrical disconnect switch is in the OFF position. Electric shock or fire could result. TAG DISCONNECT SWITCH AND GAS VALVE WITH APPROPRIATE WARNING LABELS.

⚠ WARNING

Never use a match or other open flame to check for leaks. Use a soap and water solution. Fire or serious injury could result.

⚠ WARNING

This unit is designed to operate at the following manifold pressures with LP gas: 3.0 ± 0.3 in. wg for vertical supply units and 2.8 ± 0.3 in. wg for horizontal supply units. Exceeding this pressure will cause explosion or injury.

GENERAL

These instructions cover the installation of liquid propane (LP) conversion kits used to convert units from standard natural gas input to LP gas input. See Table 1 below for accessory kit contents and usage.

IMPORTANT: Read these installation instructions thoroughly BEFORE starting installation. This instruction and accessory is for the Centurion 48HGD/E/F units. These units are equipped with an IGC (Integrated Gas Unit Controller) board and a direct spark ignition system.

Table 1 — LP Kit Contents and Usage

KIT NUMBER	UNIT	TYPE OF SYSTEM	STANDARD UNIT HEAT INPUT (Btuh) Vertical/Horizontal	KIT CONTENTS
CRLPKIT8001A00	48HGD014-028	5-Cell	250,000/225,000	8 Orifices (LH32RF110) Instructions Conversion Label Warning Label
	48HGF014	6-Cell	287,000/266,000	
	48HGF016-028	8-Cell	372,000/356,000	
CRLPKIT8002A00	48HGE016-028	8-Cell	365,000/356,000	8 Orifices (LH32RF102) Instructions Conversion Label Warning Label

INSTALLATION

Step 1 — Remove Burner Assembly from Unit

1. Shut off manual main gas valve in unit.
2. Shut off power to unit.
3. Remove heat section access panel. See Fig. 1.
4. Disconnect orange ignitor and white sensor wires from the IGC board.
5. Disconnect wires from gas valve. Mark for reconnection.
6. Remove rollout switch leads at rollout switch. Mark for reconnection.
7. Remove the wire ties securing the rollout switch leads to the manifold.
8. Disconnect the incoming gas piping from the gas valve manifold.
9. Remove the 2 screws securing the burner assembly to the heater. See Fig. 2. Save screws for re-installation of burner assembly.
10. Remove the 2 screws securing the burner assembly to the basepan. Save screws for re-installation of burner assembly. See Fig. 2.
11. Lift and remove burner assembly from unit.

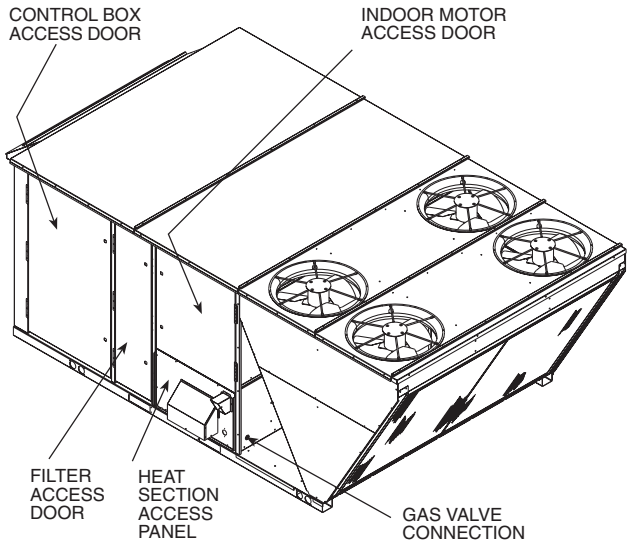


Fig. 1 — Panel Locations

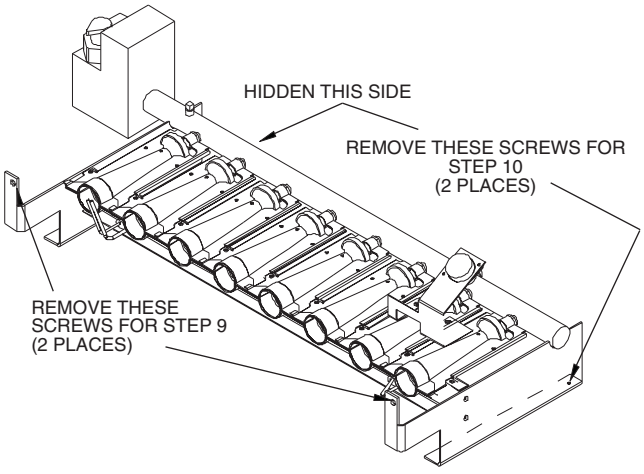


Fig. 2 — Removal of Burner Assembly

Step 2 — Orifice Replacement

1. Remove the 9 screws securing the burners and rollout switch to the manifold. See Fig. 3. Save screws.
2. Remove the orifices from the manifold.
3. Insert the new orifices from the accessory kit. The orifices should be screwed in until 2 threads remain visible. Save the old orifices for possible reinstallation if natural gas becomes available. See Fig. 4.
4. Reattach the burner manifold assembly to the burner brackets using the screws saved from Step 1. Make sure that all orifices have been installed. Reattach the rollout switch at the same time. Make sure the switch is located in its original position. See Fig. 3.
5. Check ignitor gap and adjust if necessary. See Fig. 5 for correct clearances.

Step 3 — Re-Install Burner Assembly

1. Perform the Remove Burner Assembly from Unit section steps (4 to 11) in reverse order. Be sure to reconnect wires to the same points from which they were disconnected. Use the wiring label on the control box access panel as a guide.
2. Replace any wire ties that were removed in previous steps.

Step 4 — Apply Warning Labels

1. Apply the LP conversion label on the unit panel, next to the current nameplate.
2. Apply the LP warning label on the outside of the control box access door.

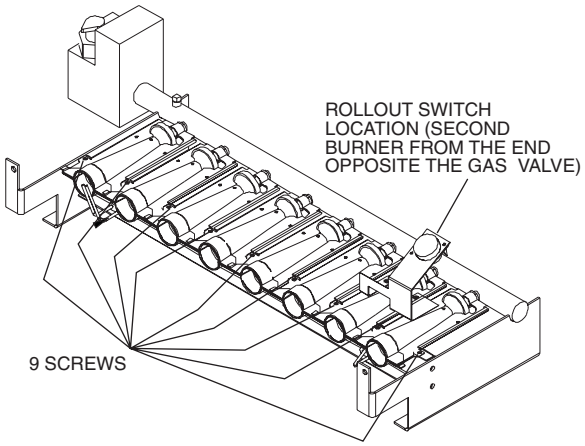


Fig. 3 — Burner Removal and Rollout Switch Location

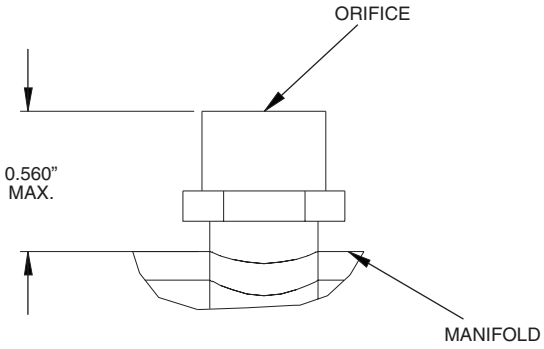


Fig. 4 — Orifice Depth

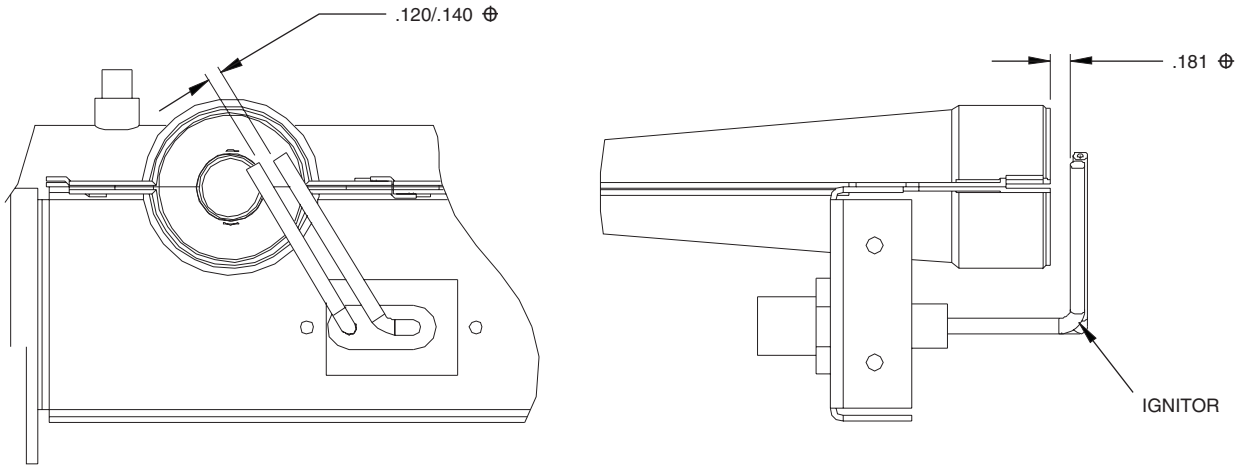


Fig. 5 — Spark Gap Detail

Step 5 — Check Unit Operation and Make Necessary Adjustments

1. Remove manifold pressure tap plug from manifold and connect pressure gage or manometer.
2. Replace heat section access panel. Panel must be in place before applying any power to unit.
3. Turn on electrical supply.
4. Turn on unit main gas valve.
5. Set room thermostat or room sensor to call for heat.
6. When main burners ignite, adjust regulator for 3.0 in. wg manifold pressure for vertical supply units and 2.8 in. wg manifold pressure for horizontal supply units. Check manifold and orifices for leaks.

⚠ WARNING

Never use a match or other open flame to check for leaks. Use a soap and water solution. Fire or serious injury could result.

⚠ WARNING

This unit is designed to operate at the following manifold pressures with LP gas: 3.0 ± 0.3 in. wg for vertical supply units and 2.8 ± 0.3 in. wg for horizontal supply units. Exceeding this pressure will cause explosion or injury.

7. Check firing rate and readjust pressure if necessary. See nameplate.
8. Shut off manual gas valve and shut off power to unit.
9. Remove pressure gage or manometer and replace manifold pressure tap plug.
10. Turn on power to unit. Then turn on main gas valve. With burners ignited, check pressure tap for gas leaks. Repair if necessary.
11. Replace all access panels.
12. Set thermostat to desired temperature.
13. Check spark gap. See Fig. 5.
14. Remove warning tags from disconnect switch and gas supply shutoff valve.

SERVICE

⚠ WARNING

Before performing service or maintenance operations on unit, turn off main power switch to unit. Electrical shock could cause personal injury.

Cleaning — Inspect unit interior at beginning of each heating and cooling season and as operating conditions require. Remove unit top panel and/or side panels for access to unit interior.

MAIN BURNER — At the beginning of each heating season, inspect for deterioration or blockage due to corrosion or other causes. Observe the main burner flames.

FLUE GAS PASSAGEWAYS — The flue collector box and heat exchanger cells may be inspected by removing heat section access panel (Fig. 1), flue box cover, and main burner assembly (Fig. 6). Refer to Step 1 section for burner removal sequence. If cleaning is required, clean tubes with a wire brush.

Use caution with ceramic heat exchanger baffles. When installing retaining clip, be sure the center leg of the clip extends inward toward baffle. See Fig. 7.

COMBUSTION-AIR BLOWER — Clean periodically to assure proper airflow and heating efficiency. Inspect blower wheel every fall and periodically during heating season. For the first heating season, inspect blower wheel bi-monthly to determine proper cleaning frequency.

To inspect blower wheel, remove heat section access panel. Using an inspection mirror and flashlight, look into the flue exhaust duct to inspect the wheel. If cleaning is required, remove motor and wheel assembly by removing the screws holding the flue box cover to the flue box. Remove the screws holding the inducer housing to the inlet plate. The wheel can then be removed from the motor shaft and cleaned with a detergent or solvent. Replace the wheel onto the motor shaft in the correct position and reassemble the flue cover onto the flue box.

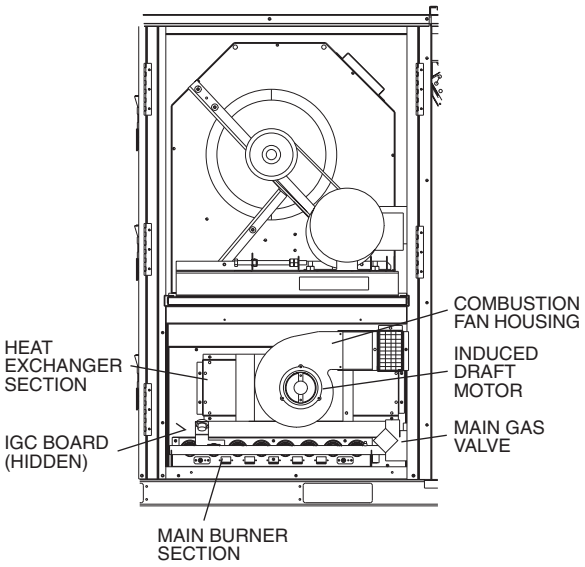
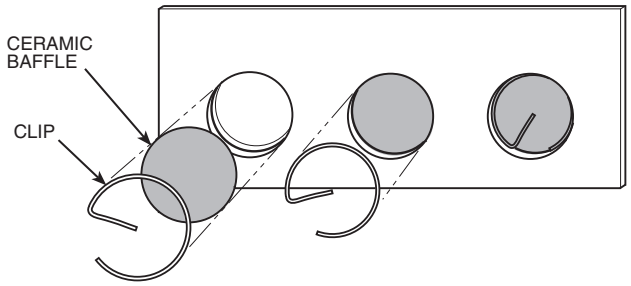


Fig. 6 — Typical Gas Heating Section



NOTE: One baffle and clip will be in each upper tube of the heat exchanger.

Fig. 7 — Removing Heat Exchanger Ceramic Baffles and Clips

Copyright 2001 Carrier Corporation